

Patent Claims

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5 1. Biaxially oriented polymer film having at least one layer, characterised in that this layer is a fibre-containing layer which is built up from a thermoplastic polymer and contains natural fibres, polymer fibres or mineral fibres.

10 2. Polymer film according to Claim 1, characterised in that the fibre-containing layer contains 0.5 – 30% by weight, based on the weight of the layer, of fibres.

15 3. Polymer film according to Claim 1 and/or 2, characterised in that the fibres are cellulose fibres, cotton fibres, polypropylene fibres, polyethylene fibres, polyester fibres, polyamide fibres, polyimide fibres, wollastonite fibres or fibres made from calcium silicate.

20 4. Polymer film according to one or more of Claims 1 to 3, characterised in that the fibres have a length in the range from 10 to 200 μm and a diameter in the range from 1.5 to 50 μm and a length/diameter L/D ratio of from 5 to 30.

25 5. Polymer film according to one or more of Claims 1 to 4, characterised in that the fibres have a melting point which is at least 5°C above the extrusion temperature of the matrix polymer or of the polymer/fibre mixture.

6. Polymer film according to one or more of Claims 1 to 5, characterised in that the polymer of the fibre-containing layer is a polyimide, polyamide, polyester, PVC or polyolefin.

7. Polymer film according to one or more of Claims 1 to 6, characterised in that the polymer is a polypropylene, preferably an isotactic propylene homopolymer.
- 5 8. Polymer film according to one or more of Claims 1 to 7, characterised in that the film is multilayered, and the fibre-containing layer is the base layer and/or the interlayer of the film.
- 10 9. Polymer film according to one or more of Claims 1 to 8, characterised in that the base layer and/or the interlayer comprises pigments and/or vacuole-initiating fillers.
10. Polymer film according to Claim 9, characterised in that the fibre-containing layer additionally comprises pigments and/or vacuole-initiating fillers.
- 15 11. Process for the production of a polymer film according to Claims 1 to 10, characterised in that a mixture of thermoplastic polymer and fibres is extruded onto a chill roll, and the resultant pre-film is warmed and stretched in the longitudinal direction and the transverse direction.
- 20 12. Use of a polymer film according to one or more of Claims 1 to 10 as packaging film, as label film, as lamination film or as metallizable film.

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